

We claim:

1. A latch assembly having a latched state and an unlatched state, comprising:
a first control element and a second control element;
the second control element having first and second paths of motion, the second control element positioned to change the latch state in its movement through the first path of motion but not through the second path of motion;
an engagement element connected with the second control element to restrict movement of the second control element to one of the first and second paths of motion and disconnected from the second control element to permit movement of the second control element in another of the first and second paths of motion; and
the first control element having a third path of motion in which the second control element is moved at least through the first path of motion.
2. The latch assembly as claimed in claim 1, wherein the second control element is positioned to change the latch to its unlatched state when the second control element is moved in the first path of motion.
3. The latch assembly as claimed in claim 1, wherein the second control element moves in its first path when connected with the engagement element and moves in its second path when disconnected from the engagement element.
4. The latch assembly as claimed in claim 1, wherein the engagement element is a pin limiting movement of the second control element when connected therewith.
5. The latch assembly as claimed in claim 4, wherein the second control element is pivotable about the engagement element when connected therewith and is pivotable about another location when disconnected therewith.

6. The latch assembly as claimed in claim 1, further comprising a pawl and a ratchet, the pawl sufficiently movable by the second control element to release the ratchet only in the first path of control element motion.
7. The latch assembly as claimed in claim 1, wherein the engagement element is a first engagement element, and wherein the first control element has a fourth path of motion, the latch assembly further comprising a second engagement element connectable with the first control element, the first control element movable through one of the third and fourth paths of motion when the second engagement element is connected therewith and movable through another of the third and fourth paths of motion when the second engagement element is disconnected therefrom.
8. The latch assembly as claimed in claim 7, wherein the first control element in the fourth path of motion transmits substantially no motive force to the second control element.
9. The latch assembly as claimed in claim 8, wherein the first control element in the fourth path of motion transmits insufficient motive force to the second control element to change the latch assembly to its unlatched state.
10. The latch assembly as claimed in claim 7, wherein the second engagement element is a pin about which the first control element is pivotable when connected therewith.
11. The latch assembly as claimed in claim 10, wherein the pin is an armature of a solenoid.
12. The latch assembly as claimed in claim 1, further comprising a pawl movable between a first position in which the latch is retained in its latched state and a second position in which the latch is released to its unlatched state, wherein the second control element in the first path of motion transmits sufficient motive force to the pawl to unlatch the latch, and wherein the second

control element in the second path of motion transmits insufficient motive force to the pawl to unlatch the latch.

13. The latch assembly as claimed in claim 1, further comprising a pawl movable between a first position in which the latch is retained in its latched state and a second position in which the latch is released to its unlatched state, wherein the second control element in the first path of motion transmits sufficient motive force to the pawl to unlatch the latch, and wherein the second control element in the second path of motion transmits substantially no motive force to the pawl to unlatch the latch.

14. The latch assembly as claimed in claim 1, further comprising an actuation lever coupled to the first control element and movable thereby through an actuation lever path to move the engagement element into connection with the second control element.

15. The latch assembly as claimed in claim 14, wherein the third path of motion has a first stage in which substantially no motive force is transmitted to the second control element and in which the actuation lever moves the engagement element into connection with the second control element, and a second stage in which motive force is transmitted from the first control element to the second control element.

16. The latch assembly as claimed in claim 14, wherein the actuation lever is a first actuation lever, the latch assembly further comprising a second actuation lever coupled between the first actuation lever and the first control element, the second actuation lever movable via the first control element to transmit motive force to rotate the first actuation lever.

17. The latch assembly as claimed in claim 14, further comprising an user-operable input coupled to the first control element to move the engagement element into connection with the second control element via the first actuation lever.

18. The latch assembly as claimed in claim 7, further comprising an actuation lever coupled to the first control element and movable thereby through an actuation lever path to move the first and second engagement elements into connection with the second and first control elements, respectively.

19. The latch assembly as claimed in claim 18, wherein the third path of motion has a first stage in which substantially no motive force is transmitted to the second control element and in which the actuation lever moves the first and second engagement elements into connection with the second and first control elements, respectively, and a second stage in which motive force is transmitted from the first control element to the second control element.

20. The latch assembly as claimed in claim 18, wherein the actuation lever is a first actuation lever, the latch assembly further comprising a second actuation lever coupled between the first actuation lever and the first control element, the second actuation lever movable via the first control element to transmit motive force to rotate the first actuation lever.

21. The latch assembly as claimed in claim 18, further comprising an user-operable input actuatable to move the second and first engagement elements into connection with the first and second control elements, respectively, via the first actuation lever.

22. The latch assembly as claimed in claim 7, further comprising an isolation element coupled to the first control element, the isolation element movable via the first control element into and out of camming contact with the second control element in the third path of motion of the first control element but not in the fourth path of motion of the first control element.

23. A latch assembly for coupling first and second inputs to a ratchet having a latched position and an unlatched position, the latch assembly comprising:

a pawl located adjacent the ratchet for transmitting motive force from the inputs to the ratchet, the pawl engagable with the ratchet to retain it in the latched position and disengagable from the ratchet to allow the ratchet to move to the unlatched position;

a first control element moveable with respect to the pawl and coupled to the first input;
and

a second control element moveable with respect to the pawl and coupled to the second input, the second control element positioned and actuatable to move the pawl from engagement with the ratchet upon actuation of the second control element independent of the first control element, the first control element positioned to generate movement of the second control element upon actuation of the first control element, the first control element capable of exerting motive force for moving the pawl out of engagement with the ratchet to move it to the unlatched position due to the movement of the second control element.

24. The latch assembly as claimed in claim 23, further comprising an engagement element having an engaged state and a disengaged state in which the engagement element is engaged and disengaged with the second control element, respectively, the second control element movable through different paths corresponding to the engaged and disengaged states of the engagement element, movement of the second control element in a first path generating movement of the ratchet to its unlatched position, and movement of the second control element in a second path not generating movement of the ratchet to its unlatched position.

25. The latch assembly as claimed in claim 24, wherein the engagement element comprises an armature of an actuator.

26. The latch assembly as claimed in claim 24, wherein the engagement element is a first engagement element, the latch assembly further comprising a second engagement element having an engaged state and a disengaged state in which the second engagement element is engaged and disengaged with the first control element, respectively, the first control element movable through different paths corresponding to the engaged and disengaged states of the

second engagement element, movement of the first control element in a third path generating movement of the second control element with resulting movement of the ratchet to its unlatched position, and movement of the first control element in a fourth path not generating movement of the second control element with resulting movement of the ratchet to its unlatched position.

27. The latch assembly as claimed in claim 26, wherein at least one of the engagement elements comprises an armature of an actuator.

28. The latch assembly as claimed in claim 26, further comprising an actuation assembly coupled to the first control element and positioned to transmit motion of the first control element in its third path to the first and second engagement elements, the first and second engagement elements thereby movable to their engaged states via movement of the first control element in its third path.

29. The latch assembly as claimed in claim 24, further comprising an actuation assembly coupled to the first control element and positioned to transmit motion of the first control element to the engagement element, the engagement element thereby movable to its engaged state via movement of the first control element.

30. The latch assembly as claimed in claim 29, wherein the engagement element includes an armature of an actuator, the actuation assembly including an actuation lever pivotably mounted to push the armature into engagement with the second control element in response to movement of the first control element.

31. The latch assembly as claimed in claim 29, wherein movement of the engagement element into its engaged state corresponds to movement of the first control element through a first range of motion, and wherein movement of the second control element by the first control element corresponds to movement of the first control element through a second range of motion.

32. The latch assembly as claimed in claim 23, further comprising an engagement element having an engaged state and a disengaged state in which the engagement element is engaged and disengaged with the first control element, respectively, the first control element movable through different paths corresponding to the engaged and disengaged states of the engagement element, movement of the first control element in a first path generating movement of the second control element with resulting movement of the ratchet to its unlatched position, and movement of the first control element in a second path not generating movement of the second control element with resulting movement of the ratchet to its unlatched position.

33. The latch assembly as claimed in claim 32, wherein the engagement element comprises an armature of an actuator.

34. The latch assembly as claimed in claim 32, further comprising an actuation assembly coupled to the first control element and positioned to transmit motion of the first control element in its first path to the engagement element, the engagement element thereby movable to its engaged state via movement of the first control element in its first path.

35. The latch assembly as claimed in claim 34, wherein the engagement element includes an armature of an actuator, the actuation assembly including an actuation lever pivotably mounted to push the armature into engagement with the first control element in response to movement of the first control element.

36. The latch assembly as claimed in claim 34, wherein movement of the engagement element into its engaged state corresponds to movement of the first control element through a first range of motion, and wherein movement of the second control element by the first control element corresponds to movement of the first control element through a second range of motion.

37. The latch assembly as claimed in claim 23, further comprising an isolation element coupled to the first control element for transmitting motive force from the first control element to the second control element.